



LISTING OF CLAIMS

Claims 1-24: (canceled)

25. (new) The use of an enterobacterium OmpA protein, or of a fragment thereof, associated with the peptide of sequence ELAGIGILYV SEQ ID No. 3, for preparing a pharmaceutical composition useful in generating a cytotoxic T response directed against melanoma cells.

26. (new) The use of an enteroacterium OmpA protein, or of a fragment thereof, associated with the peptide of SEQ ID No. 3, as claimed in claim 25, for preparing a pharmaceutical composition useful in treating or preventing malignant melanomas.

27. (new) The use of claim 25, wherein said enterobacterium OmpA protein, or a fragment thereof, is obtained using a method of extraction from a culture of said enterobacterium.

28. (new) The use of claim 25, wherein said enterobacterium OmpA protein, or a fragment thereof, is obtained via the recombinant route,

29. (new) The use of claim 25, wherein said enterobacterium is *Klebsiella pneumoniae*.

30. (new) The use of claim 29, wherein the amino acid sequence of said OmpA protein, or a fragment thereof, is selected form the group consisting of :

a) the amino acid sequence of SEQ ID No. 2;

- b) the amino acid sequence of a sequence having at least 80% homology with SEQ ID No. 2; and
- c) the amino acid sequence of a fragment of at least 5 amino acids of a sequence as defined in a).

31. (new) The use of claim 25, wherein said peptide of SEQ ID No. 3 is coupled to or mixed with said OmpA protein or a fragment thereof.

32. (new) The use of claim 30, wherein said peptide of SEQ ID No. 3 is coupled, by covalent attachment, with said OmpA protein or a fragment thereof.

33. (new) The use of claim 32, wherein the coupling by covalent attachment is produced by chemical synthesis.

34. (new) The use of claim 33, wherein one or more attachment elements is (are) introduced into said OmpA protein, or a fragment thereof, and/or into said peptide of SEQ ID No. 3, in order to facilitate the chemical coupling.

35. (new) The use of claim 34, wherein said attachment element introduced is an amino acid.

36. (new) The use of claim 32, wherein the hybrid protein resulting from the coupling between said peptide of SEQ ID No. 3 and said OmpA protein, or a fragment thereof, is obtained by genetic recombination.

37. (new) The use of claim 36, wherein the pharmaceutical composition comprises a nucleic acid construct encoding said hybrid protein.

38. (new) The use of claim 37, wherein said nucleic acid construct is contained in a vector, or in a transformed host cell capable of expressing said hybrid protein.

39. (new) The use of claim 25, for preparing a pharmaceutical composition which can be administered by the subcutaneous or intradermal route.

40. (new) The use of claim 25, wherein said pharmaceutical composition is vehicled in a form which makes it possible to improve its stability and/or its immunogenicity.

41. (new) A pharmaceutical composition of claim 25.

42. (new) The pharmaceutical composition of claim 41, wherein the protein is selected from the group consisting of:

- 1) *Klebsiella pneumoniae* OmpA protein of SEQ ID No. 2;
- 2) a protein, the sequence of which has at least 80% homology with the SEQ ID No. 2; and
- 3) a fragment of at least 5 amino acids of said OmpA protein of SEQ ID No. 2;

the protein being associated, by mixing or by coupling, with the peptide of SEQ ID No. 3.

43. (new) A pharmaceutical composition, wherein the protein is selected from the group consisting of

- 1) a nucleic acid construct containing a nucleic acid encoding the *Klebsiella pneumoniae* OmpA protein of SEQ ID No. 2;
- 2) a protein, the sequence of which has at least 80% homology with SEQ ID No. 2; and
- 3) a fragment of at least 5 amino acids of said OmpA protein of sequence SEQ ID No. 2;

and a nucleic acid encoding the peptide of sequence SEQ ID No.

3.

44. (new) The composition of claim 41, wherein said pharmaceutical composition is vehicled in a form which makes it possible to improve its stability and/or its immunogenicity.

45. (new) The composition of claim 44, wherein said vehicle is a liposome, or a viral vector, or a transformed host cell capable of expressing said OmpA protein, or a fragment thereof, and said peptide of SEQ ID No. 3.

46. (new) The composition of claim 41, wherein said composition is contained in a pharmaceutically acceptable medium.

47, (new) The composition of claim 41, wherein said composition also contains a detergent.

48. (new) The composition of claim 41, without any other adjuvant for inducing a CTL response.



LISTING OF CLAIMS

Claims 1-43: (canceled)

44. (new) The use of an enterobacterium OmpA protein, or of a fragment thereof, for preparing a pharmaceutical composition useful in generating or increasing a cytotoxic T response against an infectious agent or a tumor cell.

45. (new) The use of Claim 44, wherein the pharmaceutical composition containing the enterobacterium OmpA protein, contains an antigen or a hapten specific for the infectious agent or for the tumor cell.

46. (new) The use of Claim 44, wherein the infectious agent is a viral particle, a bacterium, or a parasite.

47. (new) The use of Claim 44, wherein the enterobacterium OmpA protein, or a fragment thereof, is obtained using a method of extraction from a culture of the enterobacterium.

48. (new) The use of Claim 44, wherein the enterobacterium OmpA protein, or a fragment thereof, is obtained by recombination.

49. (new) The use of Claim 44, wherein the enterobacterium is *Klebsiella pneumoniae*.

50. (new) The use of Claim 49, wherein an amino acid sequence of the OmpA protein, or a fragment thereof, is selected from

- a) the amino acid sequence of SEQ ID No. 2;
- b) the amino acid sequence of a sequence having at least 80% homology with SEQ ID No. 2; and
- c) the amino acid sequence of a fragment of at least 5 amino acids of a sequence as defined in a).

51. (new) The use of Claim 45, wherein the antigen or hapten is selected from peptides, lipopeptides, polysaccharides, oligosaccharides, nucleic acids, lipids and any compound capable of specifically directing a CTL response against an infectious agent or a tumor cell.

52. (new) The use of Claim 45, wherein the antigen or hapten is coupled to or mixed with the OmpA protein or a fragment thereof.

53. (new) The use of Claim 52, wherein the antigen or hapten is coupled, by covalent attachment, with the OmpA Protein or a fragment thereof.

54. (new) The use of claim 53, wherein the coupling by covalent attachment is coupling produced by chemical synthesis.

55. (new) The use of Claim 54, wherein one or more attachment elements is(are) introduced into the OmpA protein, or a fragment thereof, and/or into the antigen or hapten, in order to facilitate the chemical coupling.

56. (new) The use of Claim 55, wherein the attachment element introduced is an amino acid.

57. (new) The use of Claim 53, wherein the coupling between the antigen or hapten and the OmpA protein, or a fragment thereof, is produced by genetic recombination, wherein the antigen or hapten is a peptide in nature.

58. (new) The use of Claim 57, wherein the pharmaceutical composition comprises a nucleic acid construct encoding the hybrid protein.
59. (new) The use of Claim 58, wherein the nucleic acid construct is contained in a vector or in a transformed host cell capable of expressing the hybrid protein.
60. (new) The use of Claim 44 for preparing a pharmaceutical composition intended to eliminate infectious agents or inhibit tumor growth.
61. (new) The use of Claim 44 for preparing a pharmaceutical composition intended to prevent or treat infectious diseases comprising viral, bacterial, fungal and parasitic infections.
62. (new) The use of Claim 44 for preparing a pharmaceutical composition intended to prevent or treat cancers.
63. (new) The use of Claim 62 for preparing a pharmaceutical composition intended to prevent or treat cancers associated with a tumor antigen.
64. (new) The use of Claim 62 for preparing a pharmaceutical composition intended to prevent melanomas.
65. (new) The use of Claim 44, wherein the pharmaceutical composition is vehicled in a form making it possible to improve its stability and/or its immunogenicity.

66. (new) The use of Claim 65, wherein the vehicle is selected from:

- a liposome,
- a viral vector containing a nucleic acid construct encoding the OmpA protein, a fragment thereof, an antigen or hapten, or a hybrid protein, and
- a transformed host cell capable of expressing the OmpA protein, a fragment thereof, an antigen or hapten, or a hybrid protein.

67. (new) The use of Claim 58, wherein the nucleic acid construct or the nucleic acid construct contained in the vector or the transformed host cell comprises a nucleic acid sequence chosen from SEQ ID No. 1, a fragment thereof having at least 15 consecutive nucleotides of SEQ ID No. 1, or a sequence having at least 80% homology with one of the sequences.

68. (new) A pharmaceutical composition, containing at least one enterobacterium OmpA protein or a fragment thereof, combined by mixing or by coupling, with at least one antigen or one hapten associated with, or specific for, a tumor cell, in a pharmaceutically-acceptable medium.

69. (new) The composition of Claim 68, wherein the enterobacterium OmpA protein, or a fragment thereof, is obtained using a method of extraction from a culture of the enterobacterium.

70. (new) The composition of Claim 68, wherein the enterobacterium OmpA protein, or a fragment thereof, is obtained by recombination.

71. (new) The composition of Claim 68, wherein the enterobacterium is *Klebsiella pneumoniae*.

72. (new) The composition of Claim 71, wherein the amino acid sequence of the OmpA protein, or a fragment thereof, is selected from:

- a) the amino acid sequence of SEQ ID No. 2;
- b) the amino acid sequence of a sequence having at least 80% homology with SEQ ID No. 2; and
- c) the amino acid sequence of a fragment of at least 5 amino acids of a sequence as defined in a).

73. (new) The composition of Claim 68, wherein the antigen or hapten is selected from peptides, lipopeptides, polysaccharides, oligosaccharides, nucleic acids, lipids and any compound capable of specifically directing a CTL response against the tumor cell.

74. (new) The composition of Claim 68, wherein the antigen or hapten is coupled, by covalent attachment, with the OmpA protein or a fragment thereof.

75. (new) The composition of Claim 74, wherein the coupling by covalent attachment is coupling produced by chemical synthesis.

76. (new) The composition of Claim 75, wherein one or more attachment elements is(are) introduced into the OmpA protein, or a fragment thereof, and/or into the antigen or hapten, in order to facilitate the chemical coupling.

77. (new) The composition of Claim 76, wherein the attachment element introduced is an amino acid.

78. (new) The composition of Claim 74, wherein the coupling between the antigen or hapten and the OmpA protein, or a fragment thereof, is produced by genetic recombination, wherein the antigen or hapten is a peptide in nature.

79. (new) The composition of Claim 75, wherein the pharmaceutical composition comprises a nucleic acid construct encoding the hybrid protein obtained after the coupling.

80. (new) The composition of Claim 79, wherein the nucleic acid construct is contained in a vector or in a transformed host cell capable of expressing the hybrid protein.

81. (new) The composition of Claim 79, wherein the nucleic acid construct comprises a nucleic acid sequence chosen from SEQ ID No. 1, a fragment thereof having at least 15 consecutive nucleotides of SEQ ID No. 1, or a sequence having at least 80% homology with SEQ ID No. 1.

82. (new) The composition of Claim 68, wherein the pharmaceutical composition is vehicled in a form which makes it possible to improve its stability and/or its immunogenicity.

83. (new) The composition of Claim 82, wherein the vehicle is selected from:

- a liposome,
- a viral vector containing a nucleic acid construct encoding the OmpA protein, a fragment thereof, an antigen or hapten, or a hybrid protein, and

- a transformed host cell capable of expressing the OmpA protein, a fragment thereof, an antigen or hapten, or a hybrid protein.

84. (new) The composition of Claim 68, wherein the pharmaceutically-acceptable medium consists of water, an aqueous saline solution, or an aqueous solution based on dextrose and/or on glycerol.

85 . (new) The composition of Claim 68, wherein the composition also contains a detergent.

86 . (new) The composition of Claim 68, without any other adjuvant for inducing a CTL response.